UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,810	03/23/2001	John S. Thomas	ATH-0021-1P (073169-02781	5809

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EXAMINER
PHU, PHUONG M

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/816,810	THOMAS ET AL.
	Examiner	**Art Unit**	
	Phuong Phu	2611	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 November 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

   4a) Of the above claim(s) *14-42* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8,9,11,12* is/are rejected.

7)☒ Claim(s) *6,7,10 and 13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is responsive to the Election filed on 11/5/04.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999

(AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA

35 U.S.C. 102(e)).

2. Claims 1, 3, 4 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Raleigh

et al (6,158,041).

-Regarding to claim 1, Raleigh et al discloses a method of wireless data communication,

the method (see figure 1) comprising:

step (114) of encoding a plurality of data bits;

step (116) of transmitting and receiving the plurality of encoded data bits;

step (134) of decoding the transmitted and received plurality of encoded data bits, in a manner de emphasizing (via (420a, 420b) (see figure 7)) a subset of the plurality of received bits based on an estimate of the likelihood of the subset of received bits having been received correctly (via (418a, 418b) (see figure 7)) (see col. 8, lines 45-66).

-Regarding to claim 2, in Raleigh et al, data bits having a low likelihood of having been received correctly are inherently ignored since the method is based upon a maximum likelihood Viterbi algorithm decoding (see col. 8, lines 59-60).

-Regarding to claim 3, in Raleigh et al, the likelihood estimate is determined based upon knowledge that certain bits will be undesirable (being punctured) for a selected transmission environment (see col. 8, lines 59-67).

-Regarding to claim 4, in Raleigh et al, the likelihood estimate is determined based upon certain bits being punctured over a plurality of frequency bins of an OFDM, or in another word, based inherently upon a list of the frequency bins under the OFDM (see figures 2, 7, col. 8, lines 59-67, col. 10, lines 1-15).

-Regarding to claim 8, Raleigh et al discloses that the likelihood estimate is determined based upon channel characteristics "channel estimate information" (see col. 8, lines 54-58).

3.   Claims 1 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Mansour et al (6,353,637).

-Regarding to claim 1, Mansour et al discloses a method of wireless data communication, the method (see figure 6) comprising:

step (inherently included) of encoding and transmitting a plurality of data bits (S1, S2); and

step (612, 614, 616, 626, 624, 622) of receiving the plurality of encoded data bits; decoding the received plurality of encoded data bits, inherently in a manner processing (or namely, de-emphasizing) a subset of the plurality of received bits based on an estimate of the likelihood of the subset of received bits having been received correctly by using Viterbi maximum likelihood decoding algorithms (see col. 12, line 23 to col. 13, line 27).

-Regarding to claim 11, Mansour et al discloses that the likelihood estimate is determined based upon an analog gain setting in one or more of a plurality of frequency bins (corresponding to power profile A, B and C) (see figure 6, col. 12, line 23 to col. 13, line 27).

4.   Claims 1, 2, 5, 8, 9 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Jones, IV et al (6,442,130).

-Regarding to claim 1, Johns, IV et al discloses a method of wireless data communication, the method (see figure 1) comprising:

step (inherently included) of encoding and transmitted a plurality of data bits being received by device (102);

step (102) of receiving the plurality of encoded data bits;

step (120, 122) decoding the received plurality of encoded data bits, inherently in a manner processing (or namely, de emphasizing) a subset of the plurality of received bits based on an estimate of the likelihood of the subset of received bits having been received correctly by using Trellis (or Viterbi) maximum likelihood decoding (see col. 4, line 37 to col. 8, line 10).

-Regarding to claim 2, in Jones, IV et al, data bits having a low likelihood of having been received correctly are inherently ignored since the method is based upon a maximum likelihood Viterbi algorithm decoding.

-Regarding to claim 5, Jones, IV et al discloses that the likelihood estimate is determined based upon noise or spur levels in one or more of a plurality of frequency bins (see (116, 118) of figure 1, col. 4, lines 3-36).

-Regarding to claim 8, Jones, IV et al discloses that the likelihood estimate is determined based upon channel characteristics (112) (see figure 1).

-Regarding to claim 9, Jones, IV et al discloses that the likelihood estimate is determined based upon the power level (power spectrum outputted from (110) and received noise statistics (116, 118) for selected channels in a multi-carrier environment (see figure 1).

-Regarding to claim 12, Jones, IV et al discloses that the likelihood estimate changes based upon a change to a determined interferences in frequency domain (see (116) of figure 1, col. 4, lines 3-36), (the interferences considered here equivalent with the limitation "frequency hopping interferer").

Allowable Subject Matter

5.   Claims 6, 7, 10 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phuong Phu
PHUONG PHU
PRIMARY EXAMINER

Phuong Phu
07/12/06

Phuong Phu
Primary Examiner
Art Unit 2611